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AUG 11 1916

WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

JUN 8 - 1916

Reports for week ending May 27, 1916.

Ardmore.

Maximum temperature for the week 71; minimum 34, total precipitation .46 inch.

Heavy rains of the previous week, and some wet weather during the fore part of this week have delayed farming operations. About twenty-five acres have been planted to corn on this station, but very little planting has been done by farmers. During a normal season corn usually is planted about the middle of the month.

Winter rye is heading at a height of about two feet. It suffered somewhat from the dry weather during the month of April.

Flax which was seeded April 12th has been subjected to six heavy frosts since coming up, and apparently has not suffered serious damage.

Bellefourche.

Maximum 74, minimum 37. Precipitation 1.23 inches.

The weather continued wet and cold, field work being possible on only two days. Corn that has been planted three weeks has not come up, and unless warm weather comes soon there is danger of its rotting. Owing to the wet weather only a few farmers have any corn planted and the season is now so far advanced that corn planted now is not likely to mature.

Small grains have made practically no growth during the past three weeks.

Soil samples taken on the 26th show that the first two feet of soil are well supplied with moisture.

Havre.

Since the 20th there has been 1.93" precipitation, 1.62" of which has fallen during the last four days. To say that this storm is timely is putting it rather mildly. The rye which began heading the first of the week at about 18 inches, was rolling badly during the day. With the wind and lack of moisture in the surface soil even the winter wheat has been slow in growing. While the growth has been retarded on the spring wheat, both the stand and the growth are the most uniform of any of the crops, due to a half inch of precipitation which fell immediately after this crop was seeded. With this rain there will be approximately one-third of the stand of oats and barley which will be at least three weeks later than the remainder of the plants. As there has been but little germination of the flax plats the stand will be quite uniformly late. Prospects for a uniform stand of corn are good.

Mr. Stephens of this office and Mr. Donaldson of the Office of Cereal Investigations, both from Judith Basin visited the station on Wednesday and Thursday of this week.

Maximum temperature 64, minimum 33.

Akron.

The past week has been favorable for field work and plant growth. The millet varieties were planted Thursday and some alfalfa was sown during the week. Rye has headed and some of the winter wheat and also the spring wheat is beginning to joint. If we have favorable weather it will head about knee high. Corn is coming up.

Mr. W. W. Burr visited the station Saturday. A heavy rain occurred Saturday of last week, but there was considerable loss from run off.

Maximum temperature 90, minimum 38, precipitation 1.40" for the week.

Amarillo.

Row crop planting of grain and forage sorghums have been done this week. Corn was also planted on the D. L. A. plats early in the week. The surface soil is so dry that much of the seed now being put in will not be apt to sprout until after rain. A number of Fire weeds survived the double disking of Fall plowed plats for row crops making it necessary to go over these with a hoe. Road and alleyways are also now being cleaned and trimmed up.

The meeting of the Great Plains Cooperative Association set here for August 22, 23 and 24, is being widely advertised in the local papers. The last day of our meeting will lapse into the Third Annual Meeting of the Panhandle Farmers Congress which will be in session for three days. The hope has been expressed that a number of those in attendance at our meetings will stay over and participate in the program of the Congress.

Mr. Johnson, the Assistant Agricultural Demonstrator of the Santa Fe system and Mr. Kelley of the Bureau of Entomology were station visitors this week. The latter is investigating the activity of the green bug which is doing such extensive damage to the oat crop over in Oklahoma. He found a few of the bugs present on the oats here. He also states that the cause of blighted heads among our small grains here appears to be the presence of the wheat crown worm.

Weather for the week has been hot, dry and windy. While we are not bothered with winds here to the extent some of the stations report in the matter of soil blowing or in the manner the man at the Hettinger station complains of havor being done by winds up there -we are kept quite busy at oiling the anemometer. For the week past the maximum temperature was 95 on the 25th., minimum 47 on 21 and 22. Wind velocity hourly 10 miles, evaporation 2.704 inches. Precipitation none.

Big Springs.

Most of the week has been dry, hot and windy with no precipitation. Max. temp. 101, minimum 50, wind vel. 8.2 miles, evap. 2.66 inches, precipitation none. The prevailing direction of the wind has been from the southwest. The dry hot windy days have been hard on the young crops that have just emerged from the ground. Sudan grass, milo, kafir, cowpeas and cotton on the early planted plats are growing rapidly. As stated in previous letters a stand was not secured on some of the spring plowed land, no difficulty was experienced however, in getting a good stand of milo, and kafir on all plats regardless of the method of preparation. Three-fourths of a ton of hay was secured on land devoted to the winter rye. A good rain is needed on all crops to enable them to get properly started into growth.

Colby.

This has been the hottest and windiest week since March. Wednesday and Thursday the thermometer was above 90 most of the afternoon, and a heavy wind was blowing both day and night. For the twenty-four hour period Wed. the 2' anemometer registered an average hourly velocity of 18.3 miles, the highest on record at this station. During these two days the spring small grains wilted and fired badly, and the lower leaves of thw winter wheat began to dry. Corn, which has been in the ground since the 9th came up yesterday. The sorghums have not been planted because of delay in the shipment of the seed.

The irrigation pumps have been started, and unless it rains soon the alfalfa, half of the orchard, and a portion of the potatoes will be watered. This will be the first irrigation done on this station, as the last two years were unusually favorable to the growing of crops without irrigation.

Max. temp. for week 96, minimum 40, average hourly wind velocity (8') 14.9 mi. (2') 11.0 mi., evaporation 1.938", precipitation .11 inch.

Dalhart.

All of the small grain plats are growing very slow and some of them have began to show some signs of suffering from drought. There is considerable moisture in the first two feet of the cultivated land and the row crops are coming up nicely. The sweet clover seeded last year and harvested last week produced 6130 pounds of hay from 1.4 acres.

The weather continues windy but much warmer with a high rate of evaporation.

Maximum temperature for the week 95, minimum 44. Precipitation none. Total evaporation for the week 3.427 inches.

Dickinson, Report for week ending May 20.

Max. temp. for the week 73, minimum 32. Precipitation .50 inch.

All seeding and planting in the Dry Land Rotations was completed during the week and practically all small grains observed to be up.

A series of forage crop plats will be started this season including annual, biennial and perrenial forage crops, mainly to compare the relative hay yields of each crop. The test will be continued at least two years.

Considerable time is being expended this season in laying out new drives and relawning the grounds around the buidings.

Hettinger.

Good growing weather has prevailed. Nearly all corn is planted. The plats were planted early in the week. Nothing but ordinary routine to report.

Maximum temperature 76, minimum 32. Precipitation .03 inch.

Edgeley.

Rains occurred the frist two days of the week, but the last five days were quite favorable for field work. A portion of the fall plowed corn plats were disked and the rest harrowed Tuesday. All of the D.L.A. corn on the station was seeded Wednesday, and that on the new land was seeded Thursday. All of the corn plats on the station were harrowed again Thursday.

Weather has been rather cool all the week. Grains have been growing well but not rapidly, while all the grasses have been making a very fast growth.

A considerable amount of seeding still remains to be done, around here and farther north, mostly of barley, flax, and corn. The soil contains plenty of moisture to a depth of five feet at the present time.

Maximum temperature 69, minimum 39. Precipitation .75 inch.

Garden City.

The weather for the week has continued hot and dry and all small grain crops are drying up rapidly. The winter wheat on fallows have just begun to fire during the last three or four days. With the Russian thistles and the dry weather there seems to be little hope for the spring grains even though it should rain soon.

Rowed crops are emerging and fair stands will be secured on most of the plats. An excellent stand was secured on nearly all of the corn plats.

Field work during the week consisted principally of cultivating and soil sampling. All but five of the moisture reduction plats have been sampled. Sampling was done to a depth of eight feet; sampling being done in duplicate. From all indications this will be a good year to get data on the water requirement of the crops used in this experiment under field conditions.

Mr. G. E. Holt of the Biological Survey has been here during the latter part of the week investigating as what can be done toward lessening the number of rabbits in the vicinity of the station. Food is so plentiful at present that it is rather difficult to poison them though a few were secured by the first supply of poison bait put out. This work will be continued for a few days.

Mr. W. W. Burr of the office of D. L. A. visited the station on the 23rd.

Maximum temperature for the week as follows:

90, 97, 100, on the 22d, 24th, and 25th respectively. These temperatures were accompanied by hot winds of high velocity.

Average wind velocity for the week: Two foot anemometer 14.4 miles.
" " " " " " Eight " " 19.0 miles.

Evaporation 2.884 inches. Precipitation .01 inch.

Total precipitation to date 4.47 inches. Precipitation for the same period last year 9.78 inches.

Evaporation for the year to date 13.711 inches. Last year for the same period 13.162 inches.

Hays.

Max. temp. 99, minimum 41. Precipitation total of three showers .30 inch. This small amount of rain did practically no good to relieve the suffering of crops from drouth. During the week it has been considerably warmer, especially was it true the 24th and 25th when we had high and almost hot winds. Winter wheat suffered more those days than any time before or since this season. The wheat was pretty badly burned, and other small grain crops wilted badly. Spring wheat, oats, and barley are thin and have made rather scanty growth. Both barley and spring wheat are beginning to head, the tallest being about ten to twelve inches high. These crops are not only suffering from drouth, but also from green bugs which are very thick in places. Some plants have already been killed by these insects.

Corn though small is wilting considerable because of hot weather and lack of moisture at the surface or within reach of the roots. Sorghums are up nicely on plats where seedbed is good, but very poorly on plats where seedbed is not good. Some of the seed, like some of the corn will not come until after a good rain.

Peas are wilting badly. Rye was plowed under the 25th.

Prospects for good crops in general are much poorer than they were a week ago.

Brome grass has made no growth for some time and that which was made earlier in the season is about all dried up except along the edges of the plats next to the cultivated alleys. Alfalfa also has stopped growing, is only about six inches high except around the edges of the plats, is brown and loosing some of the foliage. The growth is too thin and small to rake for hay if it was mown. Alfalfa on the bottom land is considerable better, but the first crop will be light as compared with first crops for other years.

On the 25th 90 or more auto loads of people came from Quinter, 55 miles west of here, to see the station and incidently have picnic dinner in our State Park. The station supplied hot coffee for the dinner and conducted the party over the farm in the afternoon. The following day the Farmer's Union held their first annual picnic on the station grounds and took the occasion to visit different parts of the farm. It is said there were about 3500 people here. I am inclined to believe this figure is a little large, but there was a good attendance. The station furnished meat, coffee and some sandwiches for dinner.

Huntley.

Frequent showers during the week prevented much field work being done. Alleys were cleaned up and roads were lined out with a plow. Hogs that are being pastured on rye were weighed and show an average gain of 5.6 pounds for the past ten days. The west half of the rye plat was clipped with a mower to induce the plants to send out new growth. The ten hogs could not keep the pasture down and it was maturing rapidly. The east half will have to be clipped soon as the plants are getting woody and are not very palateable.

The week has been too cold for much growth of field crops but the recent precipitation has put better color in grains and started seed than up until now had not germinated. Max. temp. 66, min. 36, precip. 1.11 inches.

Lawton.

The past week has furnished very much warmer weather. Corn has grown rapidly and is about knee high in Field B. The corn in field A that was listed is beginning to show above the ridges. Cotton has also done well the last week and is now putting out the third leaf. Barley is nearly in the hard dough stage and is beginning to turn brown in spots. Oats and winter wheat are in the soft dough stage. Oats seem to be considerably above the average on the surrounding upland fields. Spring wheat has been headed out since the 22nd. Spring wheat did not stool much and looks pret thin but has reached a pretty good height. Broom corn, kafir, and milo that was replanted on the 22nd, was just emerging on the 27th. A good stand seemed to be secured. On the evening of the 27th a dashing rain accompanied by heavy wind and a severe electrical storm fell within a few minutes. Kafir, milo and broom corn that was just coming up in the listed plats have been covered to some extent but it is too early to determine whether or not replanting will have to be done.

Concrete side-walk from the office to the house and around the east side of the house was put in this week.

Weeds continue to give lots of trouble and have caused much extra disking in the various fields. Practically all rowed crops need cultivation and such work will be pushed as rapidly as possible within the next few days.

Mr. George Bishop of Cordell, Oklahoma visited the station this week.

Max. temp. for week 95, minimum 55. Precipitation .45 inch.

Mandan.

The planting of the tree cuttings has been continued during the week. Most of the small nursery stock has been lined out in nursery rows. The varieties of sweet corn and vine crops were planted the latter part of the week. Two cultivators have been kept busy giving all row plantings the firs. cultivation. About one-half of the lawn has been seeded.

A two inch pipe line having a span of 230 feet has been carried across the Heart river, supported by a wire cable. This pipe line connects the station main with the Mandan water main, thus giving us an ample water supply for greenhouse and lawns. The pressure is sufficient for all purposes.

All corn was planted in the rotations on the 23rd and 24th. A field of about ten acres was also planted during the week.

Mr. A. C. Dillman of the office of Alkali and Drought Resistant Plants visited the station during the week and looked after the planting of the millets and sorgos in the variety tests which he is conducting at this place. He also determined the winter killing in the variety trials of alfalfa. Some varieties and strains did not show any killing while others showed as high as 50 per cent.

Small grain is making a fair growth in spite of the cool weather. All field plats were trimmed during the week.

Twenty-four head of one and two year old steers arrived the last of the week to be used in connection with the cooperative grazing experiment. They averaged 717.5 pounds per head.

Max. temp. 65, minimum 40, precipitation .82 inch. High winds prevailed on four days of the week.

North Platte.

Max. temperature 92, minimum 43, mean 70. Precipitation .08 inch. Evaporation 1.725 inches.

Very good growing weather has prevailed during the entire week. All grain crops have responded wonderfully. Corn is coming up and looks as if it would make a good stand. The first crop of alfalfa will be ready to cut within a short time. The writer visited the Lincoln station during the week. Crops from here to the east Nebraska line are in good condition.

Sheridan.

The fore part of the week was unfavorable for hauling and about two days were lost, as far as this work was concerned. However, two teams are hauling from town at the present time and considerable material is now on the station grounds.

The temporary messhouse has been completed and temporary bunkhouse is under construction. Temporary corrals for horses and feed are under construction also.

Work on the excavation for the messhouse will begin the fore part of the coming week.

Bids on material for the messhouse were opened the fore part of the week and forwarded to Washington.

Mr. Cole left Thursday afternoon for Crawford, Nebraska, and Denver, Colorado, expecting to return about June 1st.

Mr. Willey arrived on the 23rd for about a two weeks' stay.

Mr. Sweet will probably leave for Mandan Sunday.

Williston.

Weather for the past week has been cool and cloudy, and short showers prevailed. The grains are doing well, and all growth is advancing. Warmer weather will soon be necessary for the corn. The corn plats were planted in the middle of the week. Corn planting is general in this section, altho the acreage will be smaller than last year because of scarcity of good seed and discouragement due to the poor season for corn in 1915.

Max. temper 77, minimum 37. Precipitation .95 inch.

Woodward.

The weather for the past two weeks has continued dry and hot with frequent high winds. The winter wheat if good rains should come will make not over five to six bushel on the best plats. The spring wheat and oats will probably be too poor to cut.

The variety grain sorghums are all up with a good stand. Most of the sorghums on the dry land plats give an indication that the stand will be go

Farmers about the country are somewhat pessimistic as the wheat is abo gone, and the dry spell has continued until there is little hope of getting the old standard-kafir so generally planted here to mature. Due to a rain of .56"on the 26th a great percentage of the rowed crops will go in over the coming week.

Tucumcari.

Planting for the past week consisted of varieties of grain sorghums and of crop kafir. The other work on the station has consisted mainly of cultivating and of listing for the purpose of checking soil blowing. Practically all crops have been planted with a two row planter equipped with disc furrow openers and when the soil blows badly it has been our practice to remove the chain driving apparatus from the planter and run new furrows between the planted furrows. It has been found that this ridges the soil enough so that it will not blow except in the hardest winds. In order to check soil blowing we run from two to three lister furrows in all roadways which run across the path of our prevailing winds.

The past week has been exceptionally windy and dry and there has been some soil blowing in spots in spite of our efforts to prevent it. The soil here is classified as a fine sand, having 75% fine sand, and it will blow quite easily.

All varieties of feed sorghums are up. Cowpeas of all varieties are up. All crops planted on the rotation and C. C. plats are up and a fair stand obtained. There will be a few plats which will require replanting.

Max. temperature 95° on the 25th, minimum 46. Precipitation .06 inch. Evaporation for week 3.279 inches. Average hourly wind velocity 8.9 miles, most of which occurred during the daylight hours.

Below from six to eight inches the ground is in very good shape as regards moisture, but with the high winds we have had all week and with the high temperatures, it has been drying out rapidly.

Judith Basin.

The weather is cold and backward this spring. Good stands were obtained on all rotation plats. However, the spring grains have made no growth for the past ten days. Unless we have warm weather soon, our spring grain crop with be rather light this season. With the winter wheat entirely killed out, our crop prospects for this season are not very good. The same condition exists throughout the Basin. It is estimated that 90% of the winter wheat on fallow has been winter killed, and about 60% of the stubbled in stuff is gone. In fact it is hard to find a fairly good winter wheat field in this section.

The corn, clover and alfalfa were seeded on rotation plats May 18th. At present we are trimming plats and plowing for fallow in our commercial fields. The tractor purchased this spring is working nicely and helps considerably toward getting our plowing done in due time.

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U. S. DEPARTMENT OF AGRICULTURE.

JUN 10 1916

Reports for week ending June 3, 1916.

Akron.

The past week has been cool and dry. Winter wheat and rye are beginning to suffer again from drought. Corn is up. Cane, grain sorghums, and Sudan grass were planted during the week.

Maximum temperature for the week was 86, minimum 42, and precipitation 0.02 inch.

Amarillo.

Milo and Kafir planting on the dry land plats was done this week, a change being made this season from the Standard to the Dwarf varieties. The main part of the grain and forage sorghums planting was completed this week. On most of the plats these crops are coming up in good shape, in spite of the dry condition of the surface soil. Mexican June corn planted on the dry land plats was up with fair stand by May 30, except on plats spring plowed and those listed in. These latter were too dry for anything like uniform germination. Gophers are doing considerable damage to the corn.

Winter wheat stands from 14 to 16 inches high, headed out with short heads that are making a desperate effort at filling. Spring grains have just commenced heading. Harvest of all the small grains will be light and probably will have to be done with a mower. Rye and peas for green manure were turned under yesterday, the rye averaged 30 inches in height. Peas had made a poor and uneven growth because of drouth and thistles and were beyond recovery in case of rain. They had set with a few short pods fairly well filled.

Weather for the week was hot, dry and windy. Wednesday and Thursday being real scorchers, the thermometer running up to 98 and 99, wind was going at the rate of about 20 miles per hour and humidity fell as low as 3-1/2 per cent. Minimum temperature for the week was 55 on May 29, wind velocity 10.1 miles per hour, precipitation .00, and evaporation 3.118 inches.

Weather Summary for May.

Maximum temperature	98.0	
Average maximum	81.4	
Minimum temperature	40.0	
Average minimum	52.0	
Mean for month	67.0	(3 degrees above normal)
Average hourly wind velocity	9.7	(.5 above normal)
Precipitation	C.86	(lowest for May for 25 years)
Evaporation, 6 ft. tank	10.264	(Highest recorded
Evaporation, 8 ft. tank	9.835	in 10 years, since station established)

Ardmore.

Maximum temperature for the week 84, minimum 39, and precipitation .24 inch. Total precipitation for the month of May 3.61 inches; same month last year 3.90 inches.

During the week all crops have made rapid growth. Winter rye which headed at a height of 24 inches is now 42 inches high.

Corn planting was finished during the week, and some sorghum was planted. About 160 acres are in crops on this station this year.

The writer made a trip to Oral, South Dakota, on June 2, to deliver a talk before the members of the Oral Agricultural Club. This very small town has a large and enthusiastic agricultural club. Most of the members are practical farmers, and express the keenest interest in agricultural educational work. Many large fields of alfalfa were observed in the vicinity of Oral, and the farmers speak very enthusiastically of this crop.

Big Springs.

Maximum temperature for the week 107, minimum 63, average wind velocity 8.2 miles, evaporation 3.335 inches, and precipitation .00. Maximum temperature for the month of May was 107 on the 31st, minimum 38 on the 2nd, precipitation .26 inch. Precipitation for May, 1915 was .44 inch, average May precipitation for the period 1900 to 1915 inclusive is 2.63 inches.

The hot dry weather, accompanied by occasional hot winds, continues and we are badly in need of rain. However, all crops which are up and have a well developed root system are withstanding the unfavorable conditions remarkably well, the grain sorghums and sudan grass are even making a fair growth.

Most of the past week was spent in cultivating field crops and thinning milo. A few loads of gravel were hauled the latter part of the week, for cement sidewalks which are to be put in about the buildings.

Colby.

Until today the week has been hot and dry. The .65 inch rain which fell last night was very timely as all small grain and forage crops were suffering badly. The winter wheat on plats MC A and MC B, especially the former, were wilting considerably. The remiander of the winter wheat plats were still in good condition. The barley in rotation 7, being on a plat which has drifted considerably in the past, seemed practically dried up, while the other barley plats, though wilting, were not suffering much. The tips of the oat leaves are brown, but spring wheat is still in fair condition. Milo and kafir were seeded Thursday and Friday.

Mr. Burr visited the station Tuesday and Wednesday.

Colby (con't).

Weather for the week:- Maximum temperature 81, minimum 45, average hourly wind velocity (8') 11.3 miles (2') 8.1 miles, evaporation 1.769 inch, and precipitation .67 inch.

Weather for the month of May: Maximum temperature 97 on the 9th, minimum 30 on the 2nd, mean 61, last frost on the 15th, evaporation 7.065 inches (1915, 5.429 inches), average hourly wind velocity (2') 7.9 miles, (1915, 7.6 miles), precipitation 1.33 inch (normal, 1.38 inch, 1915, 4.55 inches).

Dalhart.

There has been no change in the weather during the past week and it continues very dry. There is some moisture in the soil but the crops are growing very slow and the small grains are suffering from drought. All of the seeding has been finished and a good stand obtained on the most of the plots but it is possible that some of the plots will have to be replanted on account of damage done by the gophers.

The total precipitation to June 1, has been 2.73 inches. For the same date last year 9.06 and for the year 1914, 11.32 inches. Maximum temperature for the week 97, minimum, 48, and precipitation for the month of May .58 inch.

Edgeley.

All seeding with the exception of some varieties and mixtures of grasses was finished on the station during the week. The barley on Sec. 9 was seeded Monday and Tuesday, and some varieties of millets and other forage crops, duplicates of some seeded on the station, were seeded there Saturday. The flax plat in Rot. 12 was broken up, doubled disked, harrowed, and seeded Friday. All of the corn plats were harrowed Friday and Saturday.

With the exception of Wednesday, the weather has been fair though cool and windy the most of the week. About a half inch of rain fell Wednesday. All of the crops are making a satisfactory, although somewhat slow, growth. Some of the oats and wheat plats are becoming rather weedy.

Maximum temperature 75, minimum 36, and precipitation .56 inch.

Havre.

During the last three days of the past week, conditions have been by far the most favorable of this season for the growth of farm crops. Winter rye which began heading rather low, is making more than ordinary late growth. Some of the winter wheat is in the boot. Wheat, oats and barley have all made an excellent growth although there is some oats and barley that is just coming up. The flax is just through the ground and is an excellent stand. The corn which was planted on the 15th and 16th was planted quite deep as the surface at that time was dry. However, as near as can be judged at this time the stand will be excellent. The sprouts at present are about two inches long. Rain was recorded on three days during the week with a total of .68 inch. Maximum temperature 70 and minimum 39.

Havre (con't)

The work of the station during the past week has consisted mostly in getting the roadways and plats trimmed and cleaned.

Hays.

Maximum temperature for week, 94, minimum, 46, and precipitation, May 28th .82 inch, June 2nd .23 and June 3 .03 inch. This is the first real good rain we have had this spring.

Since the rains the crops which were suffering, and some of them seriously, have apparently taken on new life and where not too badly damaged by green bugs have a chance of making some grain. Winter wheat is at present the best chance for a crop and on the station as a whole is very good. It is also as good on the D. L. A. plats and is now in the bloom. Oats is about 50% headed, barley 30% and spring wheat is in the boot, some of the head about ready to emmerge. Oats and barley have suffered generally, more from green bugs than the spring wheat.

Corn and sorghums are now coming up fine in the places where the ground had previous to the rain, been too dry. This causes the stand to be quite uneven in size but otherwise it is looking fine.

Brome grass which for some time has been apparently dead, has taken on new life, and although there will not be enough growth for a hay crop worth mentioning, the prospects are good for a heavy seed crop.

From the standpoint of insects, the present prospects for crops, except for winter wheat is quite discouraging. Green bugs have already damaged some plats of spring small grains very materially and they are very thick and increasing rapidly, the adults drifting to the row crops where young is being deposited. Grasshoppers are hatching apparently by the millions, and some young chinch bugs are beginning to appear in the small grains, and occassionally a beetle shows up. These are plenty if all thrive well to clean us up in due time. In addition there are some joint worms (very few, however), and some fly in the winter wheat. I do not anticipate much damage on the plats from these. Ground squirrels have been prettly well annihilated, but jackrabbits are in abundance, and adding little damage to some of the crops.

I may say we expect to begin waging war upon the hoppers tomorrow, and we hope to have a rabbit proof fence around the project by the close of the season.

Mr. W. W. Burr visited the station on Thursday, and quite a number of other visitors were shown over the farm during the week.

Garden City.

The weather continues hot, dry, and windy and unless rain comes soon there will probably be no small grains to harvest.

Winter wheat on the fallow is heading at a height of about 14 inches but fully one-half of the heads are blasted.

The moisture reduction plats were irrigated in order to secure germination of the seed. Just a light application of water was given.

Mr. Holt of the Biological Survey left June 1. While at the station he succeeded in poisoning about 25 jack-rabbits and 12 cotton-tails most of which were females. It is very difficult to poison rabbits at this time of the year when food material is so abundant. Poisoned oats was used as a bait and the dead rabbits were usually found within a few feet of the oats. One onjection to poisoning the rabbits, however, is that birds, especially horned larks which are quite beneficial, were also killed.

Material for a rabbit proof fence has been purchased and will be erected when time will permit during the season.

Prof. L. E. Call of the Kansas Agricultural College, and Demonstration Agent P. E. Crabtree, visited the station on June 2.

The maximum temperature for the week, 96, minimum, 48, average wind velocity (2') 10.8 miles, (8') 14.4 miles, evaporation 2.550 inches, and precipitation, .00.

Lawton.

Some very warm weather prevailed during the past week and small grain crops have suffered from the lack of moisture. The maximum temperature for the week was reached on Thursday the first. A temperature of 100 with a very strong hot wind from the southwest prevailed all day. Many of the winter wheat plats suffered severely. By evening they seemed to have turned white and have continued to present the same appearance up to the present writing. The grain is in the soft dough stage and is drying up rather than ripening in a normal manner. Soil samples show that the wheat has used all available moisture in the soil to a depth of six feet where rock does not prevent penetration to that depth. Chinch bugs have very materially damaged all small grain crops and they are now seriously affecting the corn plats that are next to the wheat. The hot wind on Thursday seemed to have driven them nearly all out of the wheat and on Friday they were hanging

Lawton (con't)

on the corn plants in great clusters. One row of corn in Rot. 251A was practically destroyed by the bugs and the entire plat is in very bad shape. Cultivation was started immediately on all rowed crops and will be continued frequently with the hope of eliminating at least a part of the bugs. Oats, barley and spring wheat do not show the effects of hot winds as much as winter wheat. Oats and barley are nearly ripe and the winter wheat will be ready for harvest within a few days unless the weather remains cool and damp. Friday and Saturday were cool and mostly cloudy with north winds. A rain of 0.57 inch on Sunday morning and a shower of 0.18 inch Sunday night will result in much benefit to all rowed crops. All rowed crops were given cultivation during the week.

Mr. P. V. Cardon came on the second of June and will remain for a day or two in order to attend to the cotton chopping.

Mandan.

With the exception of a few caragana hedges, that are to be planted to prevent soil blowing, the horticultural plantings were completed during the week. About 1000 apple seedlings were planted in the selection block.

The fruit trees in the variety tests that were winter killed were replaced as far as we had stock available for the purpose. About 400 grape vines were planted in the plant breeding block.

Some work has been done on the roads between the plat series the past week. Corn which was planted on May 23, is just coming through the ground. Small grains are making good growth.

Twenty-six head of grade Hereford, one and two year old steers were received on the third from Dickinson. This completes the number that is required for the season's grazing experiment.

A carload of lumber was received from the Coast and the erection of the barn begun.

Maximum temperature 76, minimum 38, and precipitation .12 inch on the 31st.

Bellefourche.

Warm weather the early part of the week caused rapid growth of all field crops. In three days the spring grains made more growth than they had made in the previous three weeks. Winter rye is headed and will soon be ready to plow under. Winter wheat is growing much more slowly. It is now very little ahead of the spring wheat. All corn plats are now up. As usual, corn on fall plowing came up a day ahead of that on spring plowing.

Bellefourche (con't).

All of the dry land plats were trimmed, the roads were plowed and the alleys were cultivated during the week.

The precipitation for May was 3.17 inches. This is .89 inch above normal. The mean temperature was a little below normal.

Maximum temperature for the week was 81, minimum 41 and precipitation .28 inch.

North Platte.

Weather during the week has been only fair for crop growth. In the grain fields moisture from the rains two weeks ago is about exhausted. Winter wheat is beginning to head. On continuous cropped plats following small grain the straw is only 12 to 18 inches in height. On fallow and corn stalk ground the growth will be a good height for cutting. Corn is starting nicely. First cultivation will begin the coming week. Alfalfa will also be ready to cut.

A 20-mile wind blew on May 30. This is the highest record from the 3-foot anemometer since April, 1913. Weather records for the month of May are as follows: Maximum temperature 94 on the 10th; Minimum temperature 28 on the 1st; Mean temperature 57; Precipitation 2.25 inches; Evaporation 7.059 inches, and Wind velocity 7.7 miles. Deficiency in rainfall since January 1 is 35% of normal amount.

Scottsbluff.

Adverse weather conditions, wind and hail, made necessary the reseeding of all remaining oat plats. One spring wheat plat and the flax were also reseeded. The hail damaged alfalfa to such an extent that several fields are being cut. Some beet fields were entirely hailed out.

Generally good stands of corn were secured on all plats. The reseeded clover and alfalfa resulted in good stands.

Rye was plowed under June 3 at an average height of 36 inches. All roads and alleys have been cleaned of weeds.

Precipitation for May was .61 inch below normal and evaporation a little above normal.

Tucumcari.

Maximum temperature for week 96 on the 31st, and minimum 51 on the 29th. Average wind velocity 7.5 miles per hour, precipitation none, and evaporation 3.285 inches.

Tucumcari (con't.)

The principle work for the week has consisted of planting dwarf kafir, for grain, and cowpeas for hay, in our lower field; of thinning early planted corn and milo; of hauling dirt to fill up washed and blown out places around roads near buildings and in watering shrubs and bushes about the farmstead. Five plats of milo and a number of cotton plats were replanted on account of having become deeply covered with sand. They will have to be replanted again as soon as rain comes.

Practically all of the crops planted on the station, up to this week, are up to fair stands.

Prospects for good crops have been very poor so far this year and unless rain occurs very soon it may be necessary to replant everything when rain does come.

Although there have been several quite windy days this past week, the farm is now fixed so that soil blowing took place only in a few spots.

Practically all small grains are headed, but all are much dwarfed. Some wheat and oats have headed at from 4 inches up to 10. Winter rye is the best looking crop in the small grain line, which we have on the place. It is headed at a height of about 30 inches. All small grains are burning badly.

It has been very difficult to obtain a stand on spring plowed plats, especially late spring plowing, on account of the ground having dried out rapidly.

Sheridan.

Mr. Cole returned on Thursday. Mr. Willey will leave tonight for a short stay at Archer.

Breaking has been going on with two teams. Men and teams are now quartered on the station. Excavation has been completed for the teamsters cottage, a part of the lumber, sand, and cement is on the ground, and bids have been opened for plastering and painting it.

Bids were opened for an eight horse engine and for sixteen items of farm machinery. Good competition and very satisfactory prices were obtained. Prices are, however, higher than in other years. Vouchering up bills at the end of the month and handling bids has made an abundance of office work.

Williston.

The past week has been warmer generally than any previous period this spring. Maximum temperature 74 and minimum 34. There has been no frost for 18 days, and it is probable that danger is past for the season. Precipitation for the week was .51 inch.

Temperature for May was 3.7 below the mean normal, and precipitation was 1.7, or .65 inch less than normal. The lack of precipitation, however, was not noticeable due to the excess of

Williston (con't).

moisture from the winter and early spring.

The corn has not emerged as yet. Rye is beginning to head, but is thin. The grass plats are making very good growth, as are all the grains. Trimming of plats and cleaning of roads and alleys has been begun.

Woodward.

On May 28 we had a precipitation of .90 inch in the form of rain and hail which damaged the winter wheat about 20 percent. While the wheat straw is very short most of it in this section will pay to harvest.

The sorghum crops on the station are just coming up and it is evident that a very good stand has been obtained on all sorghum crops so far planted. The rowed crops on the station will be a couple of weeks ahead of most farmers crops.

Mr. Sieglinger of the cereal office has taken upon himself the extermination of the moles on the station, and up to date about fifty have been caught. This means a great deal, as one mole will sometimes riddle the stand of an entire plot.

The work of the past week has been cultivation to prevent blowing and kill weeds, and taking care of the first cutting of alfalfa hay. The coming week, planting of the general fields will be undertaken and thinning of the sorghum plots will be started.

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WEEKLY STATION REPORTS
DRY LAND AGRICULTURE INVESTIGATIONS
June 17, 1916.

Archer

Report for Week ending May 27.

Following are the weather conditions for this week: Maximum temperature 83 on the 25th, minimum temperature 31 on the 23rd, mean maximum 65, mean minimum 38, mean temperature 52, average wind velocity 12.3 miles, total evaporation 1.663 inches, and precipitation .72 inch.

The forepart of the week was cloudy and three small showers fell with no run-off. Heavy winds have been blowing most of the week although no soil movement resulted.

Spring seeded plats at the west end of the field, which were covered by drifting soil on the 7th have not yet recovered and it appears as though two oat plats on Rotations 14 and 16 will have to be reseeded, and on all other plats at that end of the field the stand will be thinned considerably. All winter wheat plats on Rotations have not made the recovery, from being blown out earlier in the spring, that was expected, so will probably be reseeded to spring wheat.

Winter rye on Rotation 114 and 115 began heading this week, but that on Rotations 14 and 15 will probably not head for another week. This difference is due to damage by soil blowing.

Mr. Burr visited the station on the 25th.

Reports for Week ending June 3.

Archer.

Following are the weather conditions for the week: Maximum temperature 78 on the 31st, minimum temperature 32 on the 2nd and 3rd, mean maximum 72, mean minimum 40, mean temperature 56, average wind velocity 6.7 miles, total evaporation 1.723 inch, and precipitation T.

This has been a dry week with only a trace of rain, but the wind velocity has averaged lower than any other week this season. The mean temperature is getting higher, so we are expecting summer weather soon.

The ends of all plats were trimmed with a cultivator the forepart of the week and soil sampling has been going on. All but two winter wheat plats on rotations, have been reseeded to spring wheat,

these two on Rotations 114 and 115 may be reseeded later. Oats on Rotations 14 and 15 was reseeded on the 30th, beacuse of the first seeding having been smothered by drifting soil.

The plowing and disking of plats for summer tillage was begun today.

Brome grass and alfalfa seeded on the 17th of May, came up on the 2nd and 3rd respectively.

Huntley.

During the week ending June 3, the maximum temperature was 75, the minimum temperature 37, and precipitation .13 inch.

The weather continued cold and windy this week and spring crops made little progress. Winter rye and wheat, however, made a vigorous growth, the former on some plats being nearly waist high. Peas on green manure plats are beginning to blossom but little growth is being made. Corn is up and shows a good stand, that on the M. C. listed plat being particularly vigorous. Potatoes were planted early in the week and also a plat of Siberian millet.

Plowing of roads was completed, as was the roguing of small grain plats.

Mr. F. D. Farrell, in charge of Demonstrations on Reclamation Projects, spent three days at the station this week.

Reports for Week ending June 10.

Akron.

The past week has been dry. All small grain except that on summer fallow is suffering severely. Alfalfa has made a very small growth and the first cutting will not be half as large as the first cutting last year. Local showers in other parts of the county have put the crops in fair condition in some localities.

The week was spent in grading roads, hoeing trees, and planting some cane for feed.

Maximum temperature 83, minimum 33, and precipitation .30 inch.

Archer.

Following is the weather conditions for this week: Maximum temperature 79 on the 10th, minimum temperature 28 on the 7th, mean temperature 54, mean maximum 71, mean minimum 37, average wind velocity 6.7 miles, total evaporation 1.604 inch, and precipitation .08 inch.

This has been another very dry week, with low wind velocity and rising temperatures. The soil is getting very dry and more moisture will soon be necessary. The thermometer has gotten as low as the freezing point three times during the week, but no damage has resulted to the crops. In Cheyenne beans were frozen back to the ground, but on the station they are not affected.

The remainder of the summer tilled plats, not plowed last week were plowed and disked this week. Plat markers were put at the end of all plats, this week for the convenience of visitos. Squirrels have dug up some of the young corn, which together with missed hills made it necessary to hand plant all plats to perfect the stand. Weeds are making rapid growth and are very numerous, so all alleys and roads are being cultivated today.

The remaining two winter wheat plats on Rotations were re-seeded on the 8th.

Amarillo.

Last Sunday this section was visited by a real wind and rain storm that accellerated in fury and resulting damage as it proceeded eastward. Precipitation was general over the Panhandle this portion getting a little over and inch and a half, the first we have had since May 17th. The dashing form in which the rain came packed the soil considerably and baking of the surface soil since has made it necessary to replant a good deal of the sorghums. My corn planted May 23rd, came up with poor stands on all spring treated plats especially those listed. On fall plowing the stand was 75% or better. These plats are being gone over with a hand planter to fill in missing spaces. Milo and kafir planted May 29th are not coming through very well and will probably all have to be replanted.

The rain will help winter wheat some in filling and the spring grains in heading out but all these were too far gone to be benefitted except to a small extent by this or any further rain this season. The growth of thistles in all the spring grain plats is most luxuriant and profuse.

A cement facing was put on the floor of the soil house to cover rotten places that developed in the floor laid last year.

Some of the old machinery on the station recently was condemned and today was auctioned off at a Government sale.

Weather for the week started out cool and cloudy with moderate winds following the rain but gradually has been getting warmer and windier till today (noon) we have a warm southwest wind, thermometer at 97 and humidity 14. Maximum temperature for the week was 93 on

the 9th, minimum 51 on the 7 and 8th, average hourly wind 9.2 miles, precipitation 1.60 inch and evaporation 1.763 inch.

Ardmore.

Maximum temperature for the week 81, minimum 35, and precipitation .63 inch.

Corn planted on May 30th is two inches high and growing very rapidly. A perfect stand was secured. Sorghum and millet planting was finished during the week. All crops are growing nicely, although oats show some effects from repeated frosts.

Bellefourche.

Excellent growing weather prevailed during the most of the week. Small grains have grown rapidly but are still nearly two weeks behind what they usually are at this time. The continued cold weather of the past few weeks had turned the corn yellow but it has now nearly regained its normal color.

Soil samples show that the first two feet of soil still contain considerable moisture.

Mr. F. D. Farrell spent two days visiting the station.

All roads have been gone over with the road drag and are now free from weeds. An exceptionally large amount of volunteer grain has come up in the spring plowed corn plats and in the fallow plats.

The sorghum in rotations 33 and 34 was planted on the 10th.

Maximum temperature for week 80, minimum 42, and precipitation .18 inch.

Big Springs.

Maximum temperature for the week 105, minimum 52, wind velocity 9.1 miles, evaporation 2.92 inches, and precipitation 0. The maximum temperatures for the week have ranged rather high and with the high wind velocity that has prevailed most of the time, has made conditions rather severe on the crops. Grass on the range is dry enough to burn and stock water is getting short in parts of the county. The crops on the station are standing up remarkably well under the severe conditions and continue to make some growth. Soil-blowing is causing some damage to crops in the sandy districts in the county. Quite a sand storm raged for a couple of hours Sunday evening June 4.

Colby.

There has been cool and cloudy weather this week, but no rain of any consequence. Crops are not suffering very seriously, however. Corn was cultivated this week, and the fallow plats and green manure plats of rye were plowed. All of the ground was rather hard and plowed up cloddy, though all but the winter wheat stubble plats, where considerable volunteer wheat had come up, and the rye plats were still moist. The rye was about three feet tall. All the winter wheat is headed. Considerable difference is seen between MC A B & C.

Prof. L. E. Call of Manhattan visited the station Monday.

Weather for the week:- Maximum temperature 79, minimum 42, and percipitation .05 inch.

Edgeley.

The first two days of the week were wet, but the remainder of the week was fairly favorable for field work, although cool and windy a large part of the time. All crops made a good growth during the week. Corn is just up in nice shape, and the brome grass is beginning to head. The alfalfa, seeded earlier in the season, is up with a good stand. The red clover seeded at the same time came up about the same time, but as the stand was poor it was reseeded during the week.

All of the corn plats were harrowed once during the week. A number of grasses, both singly and in mixtures, were seeded on the tract west of the station.

Maximum temperature for the week 77, minimum 36, and precipitation .73 inch.

Garden City.

A few showers during the past week have been beneficial in reducing temperatures, but there was not enough fell at any one time to be of value to growing crops.

About fifteen plats of sorghums (principally kafir) were replanted the latter part of the week. A fair stand was secured on most of the other plats.

All of the corn plats were thinned and the crop is making an excellent growth.

The field work during the week consisted pricipally of hoeing weeds and taking soil samples.

Garden City.

Maximum temperature for the week 83, minimum 42, average wind velocity, 2ft. anemometer, 7.1 miles, 8ft. anemometer 9.8 miles, evaporation 1.748 inches, and precipitation 0.49 inch.

Havre.

The maximum temperature for the past week has been 74 which occurred on the 8th and 9th, with a minimum of 47 on the 6th and a total precipitation of .61 inch which was recorded on 3 days. The sky has been cloudy the most of the time with rather a steady wind blowing. All field crops have made an excellent growth, especially the spring grains. Winter rye is beginning to bloom, winter wheat is in the boot stage and with the thin stand is stooling very profusely. Corn planted the 16th and 17th of May is just coming through, due mostly to the fact that with the dry conditions at the time of planting the seed was put in about 4 inches deep. Alfalfa, millet and flax seeded the last of May show excellent stands.

The building which has been used for an office and in which all the office fixtures were stored was destroyed by fire Wednesday of this week. The fire started from leaving fire in a fireplace and as the room was closed a hole was burned in the floor and at the time it was discovered was confined to the sills and under portion of the building. The smoke and gasses were of course very dense when the room was first opened but by the use of a barrel of water which was all that was available we were able to wet the floor and get all the furniture and records. Some of the filing cases are blistered and many of the papers smoked up badly. The greatest loss is the soil tubes which were in another room from the rest of the fixtures and which are ruined by the fire. Had even chemicals been available at first there would have been no trouble in saving the building. It was indeed fortunate that the wind happened to be in the southwest for had it been in any other direction or had there been no wind the chances are that there would have been a much greater loss than there was. We have been a little suspicious of the fireplace but as it had been used for 20 years and as the chimnies had been tried by burning large quantities of paper, it has been used at times to take the chill from the room with the expectation that sometime during the season fire would not be necessary.

Prof. Alfred Atkinson of the Montana Experiment Station and who has direct charge of the work of the substations was here on the 9th.

Hays.

Maximum temperature for the week 82, minimum 39, and precipitation .26 inch.

The weather during the week has been generally cool and cloudy considerable of the time.

Winter wheat is apparently developing very well on the plats and station as a whole, although there has been slight damage caused by fly and by dry weather for a short time. However, there is prospects at present for a fairly good yield, especially on the better methods of seedbed preparation.

The wirter was out in the country Monday and Tuesday with a part conducting Hessian fly meetings among the farmers. During the trip a few fields were seen being plowed up on account of damage caused by the fly and several more fields were seen that might as well be plowed up.

Oats, barley, and wheat on few of the better method plats are developing fairly well but all have been injured more or less by the green bugs, and the crops on some of the plats have been completely destroyed. Corn and sorghums, the oldest and largest plants are doing well to hold their own under the attack of the green bugs, and the smaller plants and late planting is being very badly damaged, some of it already killed and it now appears that none of it will be able to survive as the insects are so very thick. This is true in the larger fields as well as in the plats. Last Sunday a good part of the day the air was full of adult green bugs flying and drifting with the wind everywhere. They succeeded in finding the inner most parts of most secluded fields.

Grasshoppers continue hatching. One application of grasshopper poison was made this week on parts of the project where they are thickest.

During the week all corn plats except M C plat A and F were cultivated. Corn on the fallowed plat is 10 to 14 inches high and considerable the best looking plat at this time. Most of the surface planted kafir was cultivated. Also reserve plats which are planted to corn were cultivated.

Soil moisture determinations were made on 14 plats of winter wheat, 4 plats of fallow, also some special soil sampling was done during the week. Nitrate determinations were also made on a few plats.

It might be of interest to state there are now showing up a few worms on the wheat which is thought to be the army worm. At present they are very few and unless more follow practically no damage will be caused by them.

Huntley.

In general the past week has been much warmer than the two previous ones and spring crops have grown rapidly. Winter wheat is beginning to fire due to lack of moisture. This is especially true of the wheat on fallow plats where a very heavy growth was made earlier in the season. A good many of the plants in these plats are heading. Rye and peas are in full bloom and the former will be plowed under as soon as possible. A plat of Siberian millet planted last week is up and a good stand secured.

Hogs on rye pasture and a 2% corn ration made an average daily gain of 1.11 pounds during the past 10 days, an increase of .5 of a pound a day over the previous ten day period. This increase was no doubt due, in a large part, to the better quality of forage obtained from the young shoots that are coming up from the crowns of the old plants that were clipped a couple of weeks ago. The following table gives the results so far obtained in this work.

Fall Pigs on Rye Pasture with a 2% Corn Ration.

Date	56 Gilt	57 Bar.	58 Gilt	59 Bar.	60 Gilt	61 Bar.	62 Gilt	63 Bar.	64 Bar.	65 Bar.	Total	Ave. Daily Gain
	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
5/6	136	140	105	145	84	135	113	99	97	131	1190	
5/11	147	154	111	151	88	143	120	105	105	143	1267	1.54
5/21	156	159	117	155	99	145	122	109	115	146	1323	.56
5/31	165	161	121	160	108	147	128	113	120	153	1376	.53
6/10	177	171	131	172	120	158	137	124	131	166	1487	1.11

Field work during the week consisted of plowing fallow plats, harrowing corn and hoeing alleys.

Mr. Albert Osenbrug, a graduate of the College of Agriculture, University of Montana, arrived at the station Sunday. Mr. Osenbrug will assist with the soil sampling and other experimental work during the season.

Maximum temperature for the week was 84, minimum 36, and precipitation .01 inch.

Judith Basin.

At present we are having good rains but no warm weather. If we should have any crops to harvest, they will be late. The growth of all crops at present are at least a month later than in previous

Judith Basin (con't).

years. Our alfalfa crop is very short. We will be fortunate if we get enough feed for our work horses this season.

Prof. Atkinson visited the station yesterday. He left here last evening for Havre. The chancellor expects to visit us some time next week.

Lawton.

Several days of cloudy and showery weather have obtained during the past week but the week closed with a strong hot wind from the south on Saturday. Small grain has ripened materially and harvest through out this section of the country is in full swing.

Barley on Rotation 6 C was harvested on the 8th. On the 10th barley on Rotation 7A and W. winter wheat on Rotation 254 B and 252 B and oats on Rotations 134 D and 142 F were harvested. All of the remaining W. wheat plats and oats plats will be harvested within a few days. Wheat is pretty light. Most of the oats will make a pretty good yield. Spring wheat is considerably later. All wheat plats have been badly damaged by chinch bugs. As the small grain has matured the bugs have left it and gone to the corn and the kafir, milo, broom corn and feterita. Corn on Rotation 252A is practically all destroyed. All other corn plats near the small grain are being rapidly destroyed. On the 8th, Mr. E.O.G. Kelly of the Bureau of Entomology visited the station and a fight on the bugs with a spray solution was started. The solution used is Nicotine Sulfate or "Black Leaf 40" made by the Ky. Tobacco Products Company at Louisville, Ky. Until this material could be obtained white naptha soap was used at the rate of one bar to three gallons. This soap solution is about as effective as the "Black Leaf 40" but is a little more expensive. One spraying does not hold the bugs in check when they are coming in so rapidly from adjoining grain plats. Tar lines were put around the plats but are only effective for a short time when the wind is blowing hard. The work to date has been done with a hand sprayer and has been very unsatisfactory but it is thought that the infestation can be cleaned up as soon as better equipment arrives. Some of the feterita, kafir and broom corn will have to be planted over.

Maximum temperature for the week 92, and precipitation 1.12 inch.

North Platte.

The weather although rather cool has been above the average for crop growth. Rains occurred on the 5th and 9th. These fell rapidly and packed the soil somewhat, but there was not a great deal of run-off as the fields were in good condition to take in moisture.

Green manure rye has been plowed under. Winter wheat is fully headed and the first heads are appearing on early oats and barley. Corn is making a slow growth and is getting quite weedy.

Maximum temperature 78, minimum 41, mean 59, precipitation 1.58 inch on table and 1.67 inch on bench, evaporation 1.837 inch, and wind velocity 7.0 miles per hour.

Mr. W. W. Burr visited the station Monday and Tuesday.

Sheridan.

Mr. Wilson arrived Friday night and Mr. Burr Saturday. Foundations for the teamsters cottage and barn are completed. The contractor for the house and office has been on the ground getting ready to start work. Fencing has been started. Another team was purchased making six blacks, the entire compliment of horses planned. The State Board of Farm Commissioners purchased an automobile for the station. Delivery was made Thursday. Breaking of fifty acres on contract was completed Tuesday.

Tucumcari.

The maximum temperature for the week was 97 on the 9th, minimum 53 on the 6th, percipitation .16 inch, evaporation 1.989 inch, and average hourly wind velocity 7.1 miles.

On Sunday, June the 4th, one of the worst wind storms ever known in this section passed through the county. The wind was a straight wind from the northwest. On the station the wind did no particular damage except to blow the top from the thermometer shelter, blow and out-house over a four foot fence and scatter it for about 300 feet, and to bend practically all the vanes of the windmill. Rain amounting to .16 of one inch followed the storm. In other sections of the county reports have come in showing that a good many windmills were blown down and destroyed and that quite a number of houses were blown over, in two cases, with people in them. About 2 miles northwest of the station, a heavy wagon with people in it was blown over and one man sustained a broken arm, another a dislocated shoulder and another a broken collar bone. At Logan, 30 miles east, 4 inches of rain was reported and at Nara Visa 2.06 inches.

Tucumcari.con't.

The week has been spent in cleaning up after last Sundays storm, in hoeing weeds from roadways, in soil sampling, cultivating corn, etc.

The wind has been from the east nearly all week and the weather has been cool and cloudy, but no further precipitation occurred.

Williston.

Weather the forepart of the week was cool, but turned warmer in the latter part of the week and helped the corn emerge on all plats. Growth continues good, and there is still abundance of moisture.

All plats were trimmed during the week.

Maximum temperature 81 degrees, minimum 37 degrees, and precipitation .9 inch.

Woodward.

June 4 occurred a rain of 4.77 inches of rain. Subsequent small showers give a total for the week of 5.58. The soil has been too wet to do but very little field work. Destructive floods along the various creeks and rivers have been common.

The washing in of lister rows make it necessary for the farmers to replant most of the sorghum crops. A very short crop of wheat will be harvested and with the probability that frost will catch the very late planted row crops the outlook for farmers in this section is anything but bright.

On the station where surface planting had been done there was not great damage by washing. Crops on the station will be from two weeks to a month ahead of farmers row crops on starting. In years such as this it is thought that the farmers might be much safer on a profitable grain crop to plant the koliangs for grain yield rather than kafir or milo, providing there were seed of these obtainable.

Dalhart.

The long drought was broken by a rain of 2.36 inches which fell last Sunday. This rain was followed by light showers which brought the total precipitation up to 2.73 inches. On some of the plots, which have been seeded for some time, but were too dry for germination the plats are coming up but it is probable that the most of the plots that were in this condition will have to be replanted. Some of the plots that were located on sloping grounf were damaged by washing.

Dalhart (con't).

The small grains have made but very little growth during the week and seem to have derived little or no benefit from the rains. The oats and some of the wheat plots are heading out but are only about four to six inches high.

Range conditions are very unsatisfactory and there was not enough rain to keep the grass green more than two or three days and at the end of the week was as dry as it was in the fall.

Total precipitation for the week 2.79 inches, maximum temperature 94, and minimum 50.

Dickinson.

The weather for the past week has been cool and showery. A light frost occurred on the 8th doing but very slight injury.

Maximum temperature for the week 73, minimum 32, and total precipitation .86 inch.

Crop conditions are still below normal but not as much as two weeks ago. The acreage of corn this year is considerably less than last year. Trees and shrubs are making a better showing than they have for several years.

Mandan.

Several caragana hedges were planted in some of the field to prevent the blowing of the sandy soil.

A plat has been levelled on a protected southern exposure near the seedhouse to which have been transferred the two hundred potted plants which are to be used for hybridization.

The celery, cabbage, tomato and other hot-bed plants have been set out in the variety test plat.

A large number of perennial flowering plants that were grown from seed in the greenhouse have been transplanted into border beds.

All land for this season's fallow was plowed during the week. Corn and sorgos are up and making slow growth. Winter rye is fully headed.

F. E. Cobb and Robert Wilson left for the field on the fifth, where they will spend the next two or three months visiting shelterbelt applicants and cooperators.

Maximum temperature 78, minimum 40, and precipitation .30 inch in scattering showers.

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W E E K L Y S T A T I O N R E P O R T S

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

JUN 24 1916

WEEKLY STATION REPORTS
DRY LAND AGRICULTURE INVESTIGATIONS
June 24, 1916.

Akron

Reports for Week ending June 17.

The past week has been favorable for plant growth. A rain of 1.03 inch on Saturday and Sunday supplied moisture enough to keep crops growing during the week. The sweet clover and rye green manure crops on the rotations were plowed during the week. All of the corn was cultivated and the fallow plots disced. Barley and oats are heading.

Maximum temperature for the week 86, minimum 49, and precipitation 1.03 inch.

Amarillo

Another inch of rain this week, supplementing that of last, has brought crops to the front, the spring wheat having perked up considerably and row crop prospects at present are all that could be desired. Milos and Kafirs have come through with fairly good stands except in listed plats where some replanting with the hand planter may be necessary. The continued rains have puddled the soil in the bottom of the listed furrows making the emergence of the plants difficult or impossible.

Winter wheat will be ready for harvesting next week and oats have commenced ripening. Some winter wheat on a field adjoining the station was harvested this week. Mr. H. M. Bainder of the Santa Fe, estimates that 375,000 acres of wheat will be harvested in the Panhandle and Plains country this year, this being a 30% decrease in acreage harvested here last year. The number of acres put out for this season was greatly increased over last year but drouth, as indicated, has more than cut down the difference. It is estimated that wheat generally will yield from 5 to 10 bushels per acre probably averaging 7 bushels or so. Mr. Bainer suggest that an utter failure of the wheat crop might really have been a valuable lesson and adds "the kafirs and the cows, broadly speaking, supplemented by hogs, chickens, sheep and turkeys within proper bounds will redeem this vast, fair spreading country. Seasons like this bring us to see this more clearly."

The writer made a trip the fore part of the week to the Tucumcari and Dalhart stations. It was observed that a good deal of sod breaking is being done as far west as the Texas--New Mexico line. Gas tractor outfits are mainly being used for this work.

Weather for the week has been fair for the most part with moderate winds and temperatures. Maximum temperature was 98 on the 10th, minimum 54 on the 15th, hourly wind 7.7 miles, precipitation 1.01 inch and evaporation 2.277 inches.

Colby

The week has been cool and cloudy most of the time, favorable for the small grains. A dashing rain washed in the lister ridges, interfering considerably with the coming up of the sorghums. All the milo and kafir were replanted this week both on the D.L.A. plats and on the large fields, as practically no stand was secured from the first planting. Barley and oats headed this week. Spring wheat is beginning to head. The spring sown small grains will be very short this year.

Mr. Leo Ptacek of Manhattan arrived this morning to assist in the work of the station during the summer.

Weather for the week:- Maximum temperature 82, minimum 45, average hourly wind velocity (8') 8.1, (2') 5.0 miles, evaporation 1.408 inch and precipitation .82 inch.

Dalhart

The heavy rains of last week and the first of the present week have made it necessary to do considerable replanting which is practically finished. In most instances this occured where the soil was too dry to germinate the seed before the rain and where the rain crusted the soil to such an extent that the plants were unable to get through.

With the exception of the winter rye none of the small grains have responded to the recent rainfall and it is probable that only a few plots can be harvested. The grain on the fall plowed plots looks much better than those or any other methods of cultivation. The spring plow plots are very short and weedy. Corn is making a splendid growth but the sorghums, peas, etc are growing very slow.

Maximum temperature for the week 95, minimum 53, and precipitation 1.61 inch.

Edgeley

The week has been for the most part fair, though cool with frequent light local showers. In some places near here heavy rains occurred over restricted areas, but little more than sprinkles occurred here. Grains have been growing fairly well, although the wheat on some of the plats is not looking very good. There appears to be plenty of moisture on these plats.

The alfalfa is about ready for the first cutting. The two year old seeding is very good, while last years seeding is fair. A very good stand was secured with that seeded this spring. The red clover is just beginning to blossom. It is the best stand of that crop we have had here yet.

Winter rye is all headed around here and some is in blossom. The spring rye on the station is just in the boot.

The work of lining out the S. L. A. plats was begun Saturday.

Maximum temperature 74, minimum 41, and precipitation .29 inch.

Hettinger

Weather more favorable to growth has prevailed. Trees which have been very backward budding out this spring are now in leaf. Small grain crops are doing very well and lately corn has made good progress. Cultivated fields are well supplied with moisture but on sod it is now too dry to do good work.

Alfalfa has been seeded and the method used this years has solved the problem for us. The method is one that I first heard of through Superintendent Porter of the North Dakota Demonstration farms. It can be used with a double disc grain drill with grass seeder attachment or it can be used with a corn planter with grass seeder attachment geared to its drive. The furrow openers are double discs with a circular tire one inch in width attached by lugs to the outer surface of the discs. These tires are one inch smaller in diameter than the discs. Therefore full pressure can be applied and the tire packs the soil firmly and insures seeding at a uniform depth of one-half inch in all kinds of soil. The grass seeder is set to sow 15 seeds per foot and for alfalfa in rows, planting can be done as rapidly and with as little attention as planting corn. The county agent has helped farmers construct attachments on this plan for their corn planters, making it possible to plant corn and alfalfa in one operation.

We are busy trimming plats and roads and will be ready for the annual picnic July 1st.

Huntley

The warm weather continues and though signs of rain are frequent practically none has fallen in this locality. On the bench land north and south of the valley one or two fair showers have been reported. Winter wheat is practically all headed and some is blossoming, that on MC F and on rye and pea fallow being noticably ahead of the other methods in this respect. The plants on these plats appear to be in better condition than those on the other winter wheat plats. Summer fallow is firing the worst, especially Plats H and J of the Methods of Fallow series.

The second round of soil samples was taken during the week and indications are that spring grains and corn have a fair amount of moisture to go on. Corn is doing especially well.

Alfalfa planted in rows on rotation 42 is all dried up except for the borders and the yield will be practically nothing.

Rye on the green manure rotations was plowed under and corn was cultivated the last of the week. A new evaporation tank to replace the old one which was so badly corroded by alkali as to be useless for scientific work was installed.

Maximum temperature 89, minimum 38, and precipitation ,07 inch.

Lawton

The past week has developed some real warm weather but the nights have been quite cool. The week has also been characterized by severe wind and electrical storms at night and in the early evenings. Considerable damage has been done to property in Lawton and surrounding towns but the station has escaped such damage so far. Cotton has made very slow growth but corn is growing rapidly. Some of the corn planted on the 24th of March is beginning to tassle. All small grain has been harvested with the exception of two plats of spring wheat and they will undoubtedly be harvested by the 19th.

The fight with chinch bugs still continues but the bugs seem to be more than holding their own. The field sprayer came last Tuesday and has been at work steadly since that time. It did not take long to use the Nicotine Sulphate solution and we are now using the soap solution, putting on 50 gallons to about 5 plats under a pressure of 150 pounds. This is about the maximum amount that we can put on and handle the pressure pump with manual force.

Maximum temperature for the week 99, minimum 60, and precipitation .39 inch.

Mandan

The week's work has consisted largely of weeding and cultivation of all row crops. The roads and alleys have been cultivated or disked. In another week all the crops will have been weeded. The weeds secured a start on us this year on account of the prolongation of the planting season.

The fifty steers that are being used in the grazing experiment were vaccinated against blackleg and branded.

Breaking was begun on the thirteenth. Small areas on the west side of the station are being broken in order to increase as much as possible the size of the cultivated fields and to provide for an extension of the work.

The season has been quite dry. The field crops are not suffering any as yet but the garden crops, particularly those that have been transplanted, will suffer unless rain is received within a week.

Precipitation .08 inch, maximum temperature 79, and minimum 40.

North Platte

Rains occurred on five days during the week, making a total of 2.75 inches and bringing the rainfall for June up to 3.77 inches or within one-half inch of the normal for the month.

North Platte (continued)

Grain crops are in excellent condition. Prospects were never better for a heavy crop. The dry weather early in the season prevented an excessive growth of straw and the rains coming at this time are very favorable for the development of grain. The cool weather has kept corn from making much growth. Considerable first crop of alfalfa has spoiled in the shock and windrow.

About 275 Keith County boosters, mostly farmers, visited the station Tuesday and were served luncheon on the lawns by the North Platte Chamber of Commerce. The fields were too wet for a good inspection, but the crowd showed a good interest in the work of the station.

Maximum temperature 78, minimum 50, mean 63, evaporation .793 inch, and wind velocity 5.8 miles per hour.

Sheridan

Work has been going forward rapidly during the past week, as the weather has been dry and roads are getting in good shape for hauling.

About 20 acres of breaking are being disked and harrowed preparatory to seeding to sorghum for forage.

The wall studding and sheeting are in place on the messhouse, barn and implement shed. The work on the barn and implement shed will probably be delayed a few days because of the non-arrival of a carload of material. The cement work, excepting the cover has been finished on the cess-pool.

About a mile of posts have been set. About half of the farm implements are now on the ground

Mr. Willey arrived at Sheridan on the 15th and Mr. Cole left for Denver on the 16th.

Mr. W. W. Burr and Robert Wilson were visitors at the Station the fore part of the week.

Tucumcari

The maximum temperature for the week was 103 on the 15th, minimum 55 on the 14th, average hourly wind velocity 6.7 miles, evaporation 2.794 inches, and precipitation .10 inch; 01 on the 12th and .09 on the 14th.

During the past week all roadways and alleys have been hoed out. The ends of all plats have been trimmed and quite a number of the D.L.A. plats have been thinned to uniform stands. Several plats have been cultivated.

The weather has continued dry and warm. On the day the temperature registered 103, quite a stiff wind blew from the southwest all day. Practically all of the small grains are in bad shape for want of rain and it is doubtful if there will be over

Tucumcari (continued)

three or four plats which can be harvested. Some of the early planted corn is rolling badly and will burn up, without rain in the nexr 10 days. All other crops, with the exception of some thin stands on later spring plowing, look well and are making good growth.

Mr. L. N. Jensen, of the Amarillo station visited us one day this past week.

The feeding test with steers which has been carried on at this station for the State Experiment Station, has been completed and the steers are being butchered as fast as they can be handled. The purpose of this test was to compare a ration having cowpea hay to furnish protein and roughage with one having shredded stover roughage abd cotton-seed meal for protein. Pen 1 (cowpea) made a total gain of 1306 pounds and Pen 2 a total gain of 904 pounds, five steers to lot, during 121 days. Both pens received Kafir corn silage and ground Milo heads. The results, both amount of gains and costs, seem to favor the ration fed pen 1.

Williston

Weather for the week has been fairly warm, and light passing showers prevailed. Maximum temperature 80, minimum 41, and precipitation .25 inch.

Trimming of plats and alleys was finished. All corn cultivated, and is doing well. The rye is all headed, and will be ready to be plowed under the coming week.

Mr. W. W. Burr visited the station on June 16, leaving here for Fargo.

The annual county picnic will be held on the station on Friday, July 14, and preparations are being made for a large attendance. The Williston Township Farmers' Club and the Williston Commercial Club are helping in the arrangements.

Woodward

Rainfall from June 5 to June 17.

June 5.....	4.70	June 6.....	.33
" 7.....	.11	" 10.....	.44
" 12.....	.12	" 14.....	1.58
" 16.....	.09	" 17.....	.06

The excessive rainfall of this month has given weed growth a great impetus. Being so constantly moist it is difficult to deal with them and station looks exceeding ragged, in spots, but late plowing has gotten rid of larger areas.

Woodward (continued)

Considerable washing has been done on station, which indicates that Burmuda and alfalfa will have to be planted extensively along runs.

Moles work on the surface when ground is moist, so the weather has been excellent for trapping the,. Up to date 130 have been caught.

Many farmers have given up the idea of putting in any crop this year. In some cases poor wheat was listed up with the expectation of putting in a rowed crop. Excessive moisture has prevented the planting of kafir until there is little likelihood of its maturing so large areas will probably be fallowed and put into wheat this fall.

Trees and shrubbery on the station are growing rapidly. With the particularly favorable season last year, and the heavy rainfall this June they are making a showing much more quickly than they ordinarily would.

Bellefourche

Maximum temperature for the week 85, minimum 41, and precipitation .28 inch.

The past week has been warm and dry. A few plats are beginning to show the need of moisture. As yet, nothing except the alfalfa has suffered to any noticeable extent.

The winter rye on rotation 14 and 15 was plowed under on the 15th. The rye had made fairly good growth.

Corn and potatoes were cultivated during the week. The fallow plats were disced and the alleys cultivated.

Big Springs

Maximum temperature for the week 104, minimum 59, wind velocity 8.6 miles, evaporation 3.03 inches, precipitation .67 inch. The above precipitation fell in two showers, one on Saturday afternoon, June 10th and the other June 14th. The latter shower amounted to .45 of an inch and was accompanied by very high winds that did considerable damage to crops on sandy soils. One man lost 175 acres of cotton by having it cut off and covered up with sand. The damage was light on the station, though the crops were whipped around considerable. This section has been visited by several showers the past week but most of them have been too light to do much good. The country is getting dry and rain is needed to relieve the situation. The crops on the station are holding up well on the various experimental plats, but we need more moisture to finish planting the June corn, Mexican beans, broomcorn, and the balance of the field crops.

Garden City

Winter wheat on the fallows is ripening but the yields will be light. One or two plats on the sandier portions of the project may yield as much as fifteen bushels per acre. The absence of hot winds during the last two or three weeks has caused the heads to fill out much better than was expected.

Spring wheat on the fallows is thin on the ground, now. A good stand was secured but Russian thistles prevented the plants from tillering.

A trip was made the latter part of the week, about eighteen miles east of Garden City into what is quite commonly termed by some as the edge of the wheat belt. With the exceptiion of one field, the stands were found to be extremely thin. What crop there was, however, was not suffering appreciably from drought. Nearly all of the fields were very weedy.

Frequent showers during the past week have been very beneficial in germinating rowed crops. Considerable seeding of sorghums is still being done.

Maximum temperature for the week 92 minimum 49, average wind velocity (2') 7.6 miles, (8') 10.6 miles, evaporation 1.682 inch, and precipitation 0.82 inch, distributed in five showers.

Havre

With a maximum temperature of 83, a minimum of 41 and precipitation amounting to .27 inch, the weather during the past week has stimulated growth in all farm crops. Winter rye was cut for hay and the plats for green manure are about ready to be turned under. Winter wheat has stooled very profusely and even with the thin stand many of the plats are showing up fairly well. Corn is coming up and is somewhat ununiform due to the deep seeding. Gophers are causing damage on one of the commercial fields of corn in the bottom, but so far they have not bothered the plats. Field work during the week has consisted in breaking sod getting the roadways leveled up and the alleys cleaned of weeds.

Mr. Burr made a short visit to the station on the 15th.

A trip was made today with Mr. Banker the county agent for this county, extending north and west about 50 miles. Flax and oats are later than usual. The spring wheat in general is looking excellent. The winter wheat that has survived the winter is mostly on stubble land and the yield of this crop in general will be light even under the most favorable conditions.

NOTE.

The attention of field men of this office is invited to the fact that it is irregular that an employee be employed in a different capacity from that specified in his appointment. Once a man is appointed he should under no condition be paid for work in any other capacity than that specified in his appointment.